

REMASELLUS, A NEW GENUS FOR THE
TROGLOBITIC SWIMMING FLORIDA ASELLID
ISOPOD, *ASELLUS PARVUS* STEEVES

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Abstract.—*Asellus parvus* Steeves, 1964, from Ten Inch Cave, Alachua Co., Florida, is assigned to a new genus, *Remasellus*, characterized by a simple pereopod 1, broad natatory pereopods 2-7 fringed with long setae, and male pleopod 1 without retinacula. New records are reported from the Split Spring Cave system, Wakulla Co., Florida, and the Peacock Spring cave system, Suwannee County, Florida. Its behavior is unusual for an asellid in that in addition to walking on the substrate like an ordinary asellid, it also swims weakly in the open water.

Preceding the Eighth International Congress of Speleology at Western Kentucky University, Bowling Green, Kentucky, 18-24 July 1981, an International Cave Diving Camp was held in Florida in which the second author participated. In two of the caves a swimming isopod was collected that proved to be *Asellus parvus* Steeves, 1964. The natatory pereopods 2-7, not described or illustrated by Steeves, together with other features have led us to place it in the new genus described below.

Remasellus, new genus

Diagnosis.—Mandible with 3-segmented palp. Maxilla 1, inner lobe with 5 apical spines. ♀ maxilliped oostegite with apical plumose setae. Pereopod 1 simple, not subchelate; pereopods 2-7 natatory/ambulatory, with broad segments fringed with closely spaced setae. ♂ pleopod 1 without retinacula. ♂ pleopod 2 endopod with small inner and outer basal apophyses, tip with several processes. ♀ pleopods 2 not overlapping medially. Uropod exopod very short; endopod long (♂ only?).

Type-species.—*Asellus parvus* Steeves, 1964.

Etymology.—Remus = oar (Latin) + *Asellus*, referring to the shape and function of pereopods 2-7.

Remasellus parvus (Steeves)

Figs. 1-4

Asellus parvus Steeves, 1964:450-451, figs. 10-14.—Fleming, 1973:295 (in list), 299 (in key).

Material.—FLORIDA: Alachua Co., Ten Inch Cave, 5 mi N of Newberry, leg. R. D. Warren: 9 Jun 1961, 1 ♂, 1 ♀, USNM 111142, holotype and allotype (not separated in vial); 4 Jun 1961, 1 ♀, USNM 111140; 20 Jan 1962, 1 ♂, 3.3 mm, USNM 111141.—Wakulla Co., Split Sink cave system, leg. Boris Sket and Wayne Marshall, Jul 1981, 1 ♂, 5.5 mm, USNM 213321; 4 ♀, 4.7, 6.0, 7.0, 8.7 mm, USNM 213332.—Suwannee Co., Peacock Spring cave system, leg. Boris Sket and Wayne Marshall, Jul 1981, 1 ♂, 2.7 mm, 2 ♀, 1.9, 2.35 mm, USNM 213323.

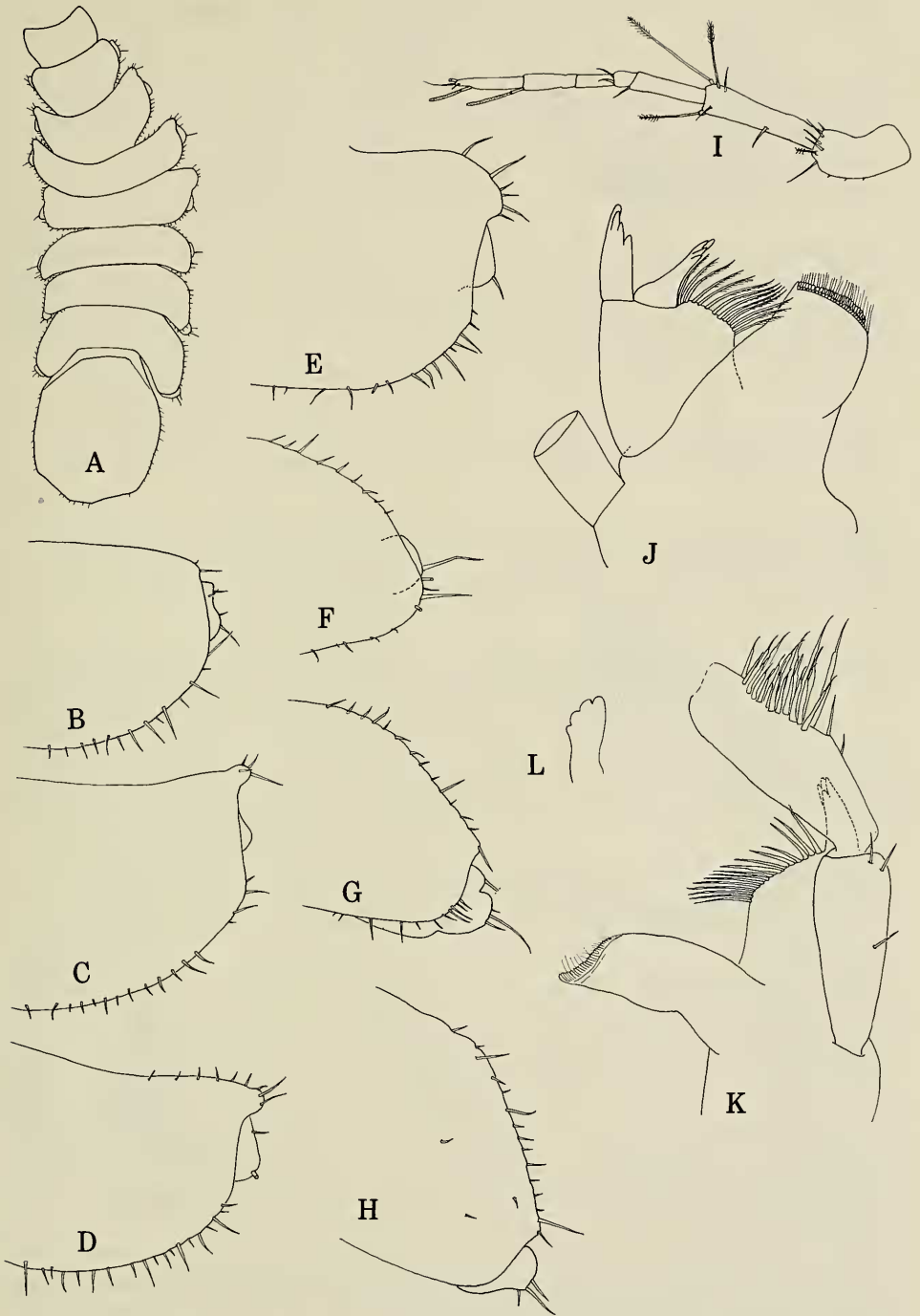


Fig. 1. *Remasellus parvus*, A-H, J-L, from Split Spring specimens; I, from Peacock Spring ♂: A, Habitus, 7.0 mm ♀; B-H, Pleura of pereonites 1-7, 7.0 mm ♀; I, Antenna 1, 2.7 mm ♂; J, Left mandible, palp omitted; K, Right mandible, distal segment of palp omitted; L, Incisor of right mandible.

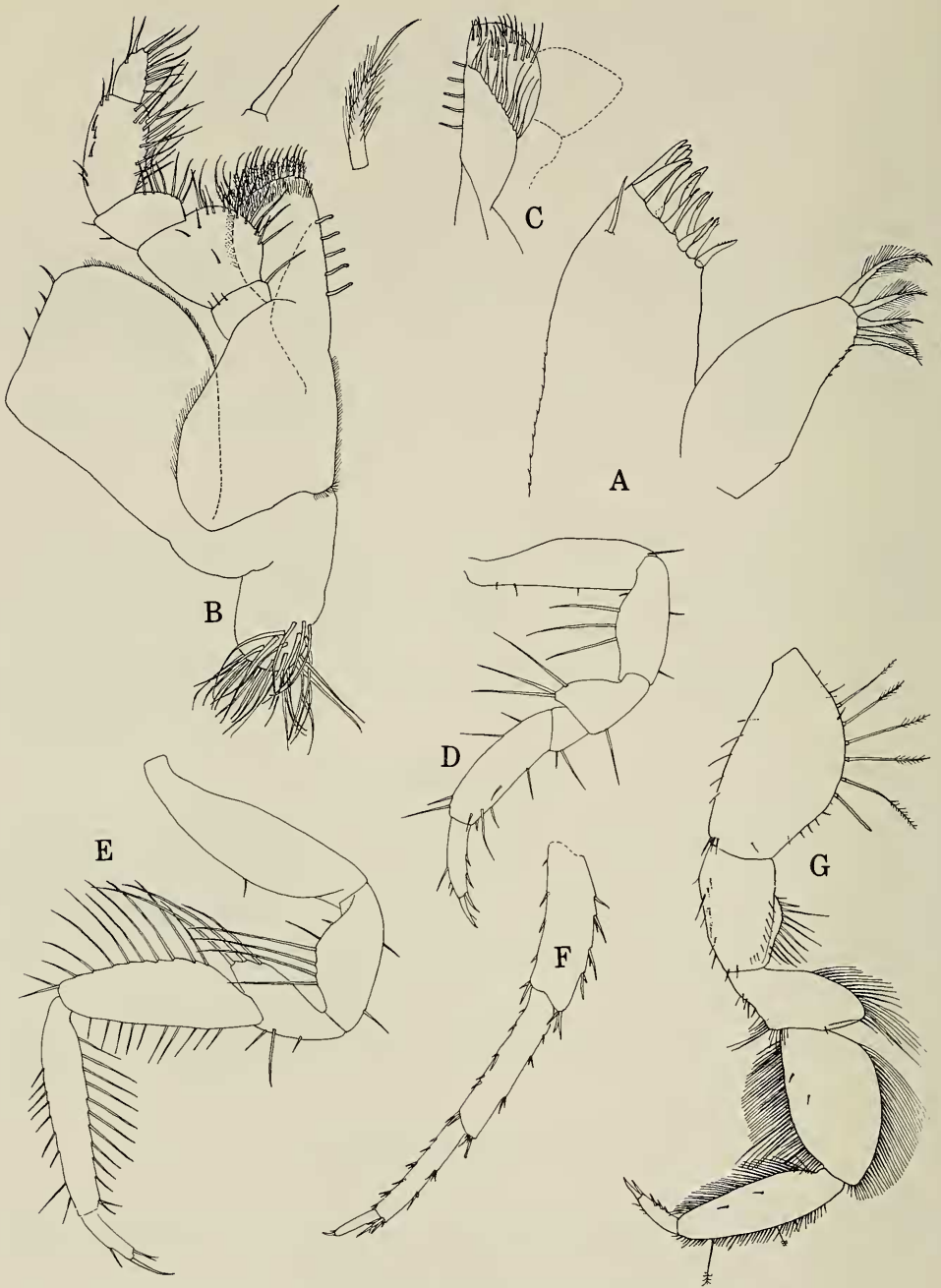


Fig. 2. *Remasellus parvus*, A-C, F-G, from Split Spring specimens; D-E, from Peacock Spring ♂: A, Maxilla 1; B, Maxilliped, ♀; C, Endite of same, anterior; D, Pereopod 1; E, Pereopod 2; F, Undetermined pereopod, distal segments; G, Pereopod 3 or 4.

Collections by Sket and Marshall were made with a "squeeze bottle" (Iliffe and Sket, in press).

Although the holotype and allotype were not separated, it can be safely assumed that Steeves intended the male to be the holotype since Steeves always selected males for holotypes. Curiously, Steeves stated that two allotypes were deposited, an impossibility since by definition there can be only a single allotype, and he failed to list the additional ♂ and ♀ although they were identified by him and are clearly topotypes.

Description.—Blind, unpigmented. Body about $3\times$ as long as wide, widening from head to pereonite 3; pereonites 3–7 subequal in width. Head about $1.5\times$ as wide as long; anterior margin shallowly concave; postmandibular lobes inconspicuous. Coxae visible dorsally on all pereonites. Telson about $0.8\times$ as wide as long; lateral margins slightly convex; posterior margin slightly concave on either side of truncate caudomedial lobe.

Antenna 1, flagellum with short proximal segment and 3 distal segments progressively longer; esthete formula 1-1. Antenna 2 broken off at base in all specimens.

Mandibles with 4-cusped incisors and lacinia; spine-row with 13 and 15 spines in left and right mandibles. Maxilla 1 with 5 and 13 apical spines on inner and outer lobes. Maxilliped with 5 retinacula; endite densely setose; epipod with few setae.

Pereopods of Split Spring specimen all detached and free in vial. Pereopods of Peacock Spring specimens absent except attached pereopods 1–2 in ♂. Detached pereopods identified by comparison with those of topotype ♂ (Fig. 4A–E).

Pereopod 1 slender, simple; ischium and merus with 3–4 long naked setae on anterior margin; carpus very short; propus slightly longer than ischium, with a few setae on both margins; dactyl slightly shorter than propus, biunguiculate, with 2–3 spines on posterior margin.

Pereopod 2 much longer than pereopod 1, with long setae on anterior margin of ischium, merus and carpus, and on posterior margin of carpus and propus; shorter setae on anterior margin of propus; propus slightly more than twice as long as dactyl.

Pereopods 3–6 successively longer, with flat expanded segments; basis usually with several broom setae on 1 margin; merus, carpus, and propus with rows of setae on both margins; dactyl with 3–5 spines on flexor margin.

Pereopod 7 much longer than pereopods 5–6, segments longer and narrower; carpus and propus with long setae on both margins.

♂ pleopod 1 endopod narrowly oval, about $1.6\times$ as long as protopod; apex and distal third of lateral margin armed with short non-plumose setae. ♂ pleopod 2 protopod unarmed; exopod proximal segment with 1 lateral seta, distal segment obovate with 14 setae on apical margin and distal half of lateral margin; endopod with small basal apophyses, tip with short broad cannula, broadly rounded caudal process excavated centrally, and short recurved pointed lateral process.

♀ pleopod 2 with straight medial margin; lateral margin diverging gradually to widest point of appendage slightly beyond midlength where setae begin, then converging to narrow apex; 14 plumose setae on lateral and apical margins.

Other pleopods in poor condition, not examined.

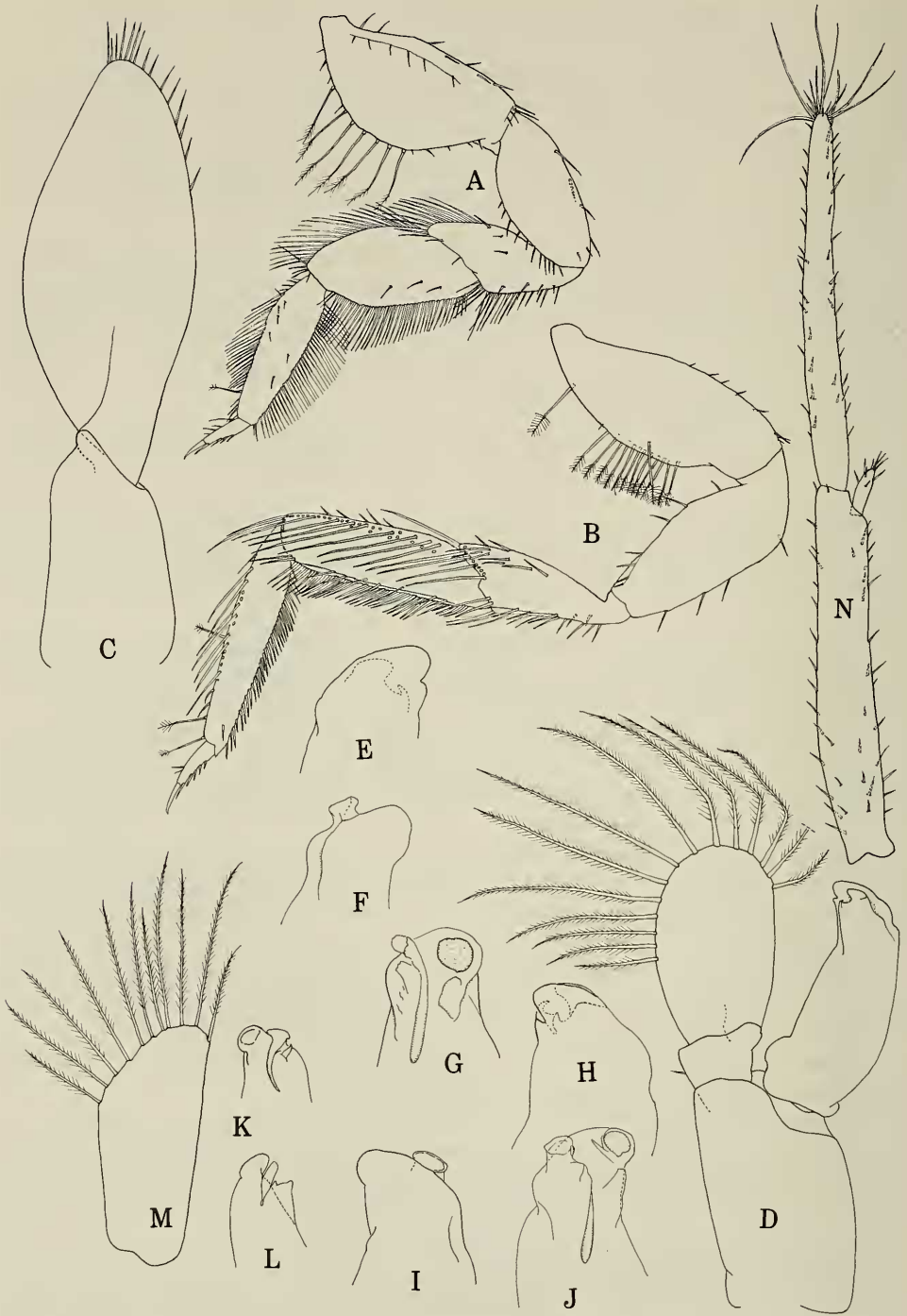


Fig. 3. *Remasellus parvus*, A-H, M, from Split Spring specimens; K-L, from Peacock Spring ♂: A, Pereopod 3 or 4; B, Pereopod 5 or 6; C, Pleopod 1, ♂; D, Pleopod 2, ♂; E-L, Pleopod 2, ♂, endopod tip in different aspects; M, Pleopod 2, ♀.

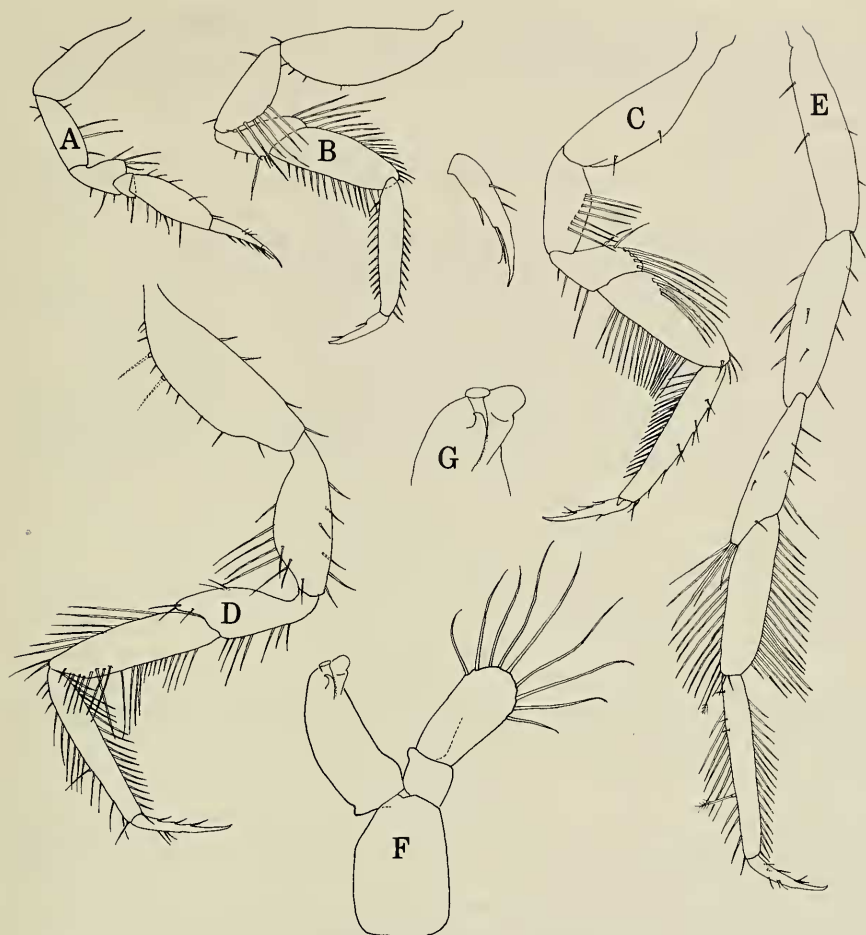


Fig. 4. *Remasellus parvus*, ♂ topotype: A, Pereopod 1; B, Pereopod 2; C, Pereopod 4; D, Pereopod 5; E, Pereopod 7; F, Pleopod 2; G, Pleopod 2, endopod tip.

Uropod with narrow protopod and endopod subequal in length, latter with cluster of long apical setae; exopod very short, less than one-seventh as long as protopod. The single uropod found appears to be from a ♂; in other asellids such unequal uropod rami are present only in the ♂; rami of the ♀ are nearly equal.

Remarks.—Some differences in detail can be seen between the type-locality specimens (Fig. 4) and those from the other localities (Figs. 1–2). Moreover, we are not absolutely certain that the much smaller specimens from Peacock Spring are identical with the larger Split Spring specimens. When adequate material becomes available the question of conspecificity should be carefully studied.

Relationships.—*Remasellus* is quite distinct from all other genera of Asellidae. Its apomorphic character states, simple pereopod 1 and natatory pereopods 2–7, and ♂ pleopod 1 without retinacula, are not found in combination in other genera of the family. The reduced basal apophyses of ♂ pleopod 1, also apomorphic, are found in some species of *Caecidotea*, the only other genus of Asellidae known

from Florida. Three species of *Caecidotea* are known from Florida: *C. racovitzae australis* Williams, 1970, and *C. obtusus* Williams, 1970, both epigean, and the troglobitic *C. hobbsi* (Maloney, 1939). None of these is significantly similar to *Remasellus parvus*.

Habitat.—The Split Sink cave system, near Tallahassee, is a corridor occupied by a subterranean river, accessible through several collapse sinks. *Remasellus* was fairly common on the walls of one of the large drowned halls. The walls were covered by a compact black deposit that was tattered and fragile.

The Peacock Spring cave system is one of the largest drowned cave systems surveyed thus far (Exley and DeLoach 1981). *Remasellus* was found in one of the side branches where the bottom was partly covered with silt deposits.

Behavior.—The Split Sink specimens behaved like the usual asellid while on the rock walls. When removed from the walls to the water column, they swam slowly with what appeared to be metachronal movements of the pereopods and slight lateral sigmoid movements of the body. The body was in a vertical position with the head held upwards and the uropods downwards close to one another. The Peacock Spring specimens were seen in the water about 5 cm above the silt, also in a vertical position with the head up and the uropods down. A thin trail of silt was present between the uropods and the bottom.

Acknowledgments

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